

# Exploring the future of finance: Digital euro, crypto assets, and the quest for digital sovereignty

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*Check against delivery.*

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## 1 Introduction

Ladies and gentlemen,

Crypto assets have been a major talking point ever since Donald Trump ran for office as the “crypto president”. But I was very interested in this topic even before that.

You see, in my previous role as Lead Economist and Programme Leader for Central America at the World Bank, my remit also covered El Salvador at the time of the then new President Nayib Bukele's inauguration. That's why I followed El Salvador's “Bitcoin experiment” in 2021 with great interest – it had decided to become the first country in the world to introduce Bitcoin as legal tender.

Just three years later, in 2024, El Salvador bowed to pressure from the IMF (International Monetary Fund) and responded to the weak demand by abolishing the obligation for merchants to accept Bitcoin as a means of payment. Just 1.3 % of money transfers between September 2021 and June 2024 were made in crypto assets.<sup>[1]</sup>

Today, as a central banker, I'm revisiting this topic from a different vantage point. Current geopolitical fragmentation and technological progress are impacting the financial architecture, markets, and instruments. This affects how we, as a central bank, are able to fulfill our mandate. That is why, with the "future of finance," we are establishing a new research focus, which also looks at the impact of stablecoins and digital currencies.

I would like to explore this topic with you based on the following three key questions:

- What kind of geopolitical and economic environment are we operating in and what role does digitalisation play?
- How are these developments affecting financial market structures, architecture and instruments?
- What is our response as a central bank?

## **2 Geopolitical and economic environment**

Since the election of the new US (United States) administration, we have observed a high level of uncertainty. This is reflected in uncertainty indices as well as in market fluctuations.

Looking at trade flows, indications of fragmentation are fairly abundant.<sup>[2]</sup> For instance, a Bundesbank study shows that rising geopolitical risks in trade partner countries dampen imports of goods, make them more expensive and impair supply chains. In addition, they are likely to be conducive to a fragmentation of global trade.<sup>[3]</sup>

Compared to trade, evidence that financial flows have become more fragmented along geopolitical lines is less pronounced. But this could have far-reaching consequences as well.

In particular, recent findings from Bundesbank research indicate that geopolitical shocks like Russia's invasion of Ukraine in February 2022 or the Hamas attack in October 2023 decrease lending, increase risk aversion, widen credit spreads, and raise volatility and interest rates.<sup>[4]</sup>



The key to addressing all these challenges is to strengthen Europe. Which brings me to my next point.

Europe has long embraced international cooperation and global trade. This has created international dependencies. Europe currently imports more than 80 % of its digital infrastructure and technologies.

Three US (United States) companies – Amazon, Microsoft, and Google – dominate nearly 70 % of the European cloud computing market (IaaS), compared to only 2 % for the largest European providers (SAP and Telekom, around 2 % each).<sup>[7]</sup>

To reduce these dependencies and promote technological sovereignty, investment needs to be made in European IT (information technology) providers.

At the Bundesbank, we have systematically examined our IT (information technology) stack. We must now consciously decide where to reduce dependencies and where to deliberately maintain and actively manage them.

To answer the first question: Geopolitical developments have led to major economic policy uncertainty. Recent research indicates growing fragmentation in trade and financial flows. There are high technological dependencies in Germany and Europe. The key to addressing all these challenges is to strengthen Europe; integrating its financial markets and managing our digital dependencies strategically.

### **3 Changing financial market architecture and instruments**

Current geopolitical fragmentation and technological progress are impacting financial architecture, markets, and instruments. This affects how we, as a central bank, are able to fulfill our mandate.

Let me illustrate this using the example of crypto assets.

Crypto assets can influence financial stability and monetary policy transmission. Currently, we consider systemic risks to be limited, as crypto markets remain relatively small and are not deeply intertwined with the conventional financial system. For instance, the market capitalisation of the crypto sector accounts for less than 1 % relative to global net financial assets.

However, stablecoins, in particular, could gain further relevance against the backdrop of a growing global market and increasing legal clarity. Stablecoins are crypto assets that aim to maintain a stable value relative to a specified asset, typically a central bank currency. Often, they hold reserve assets to create trust in their ability to meet redemption claims. As a result, they exhibit a more stable value compared to Bitcoin and have the potential to be used outside the crypto system – for cross-border payments, say.

The reserve assets of stablecoins – such as bank deposits or government bonds – already create a link between the crypto system and the traditional financial system. If doubts arise about the adequacy or availability of these reserve assets, it could lead to a run. Consequently, this could trigger fire sales in securities markets and sudden withdrawals of stablecoin reserves from banks, posing contagion risks to the traditional financial system. A significant portion of global stablecoin reserves is currently invested in short-term US (United States) government bonds, making certain issuers increasingly important players in this market.

The use of stablecoins for applications outside the crypto system is still limited but could grow. At present, stablecoins are primarily used within the crypto system for trading crypto assets like Bitcoin and in decentralised finance (DeFi (decentralised finance)) applications. Nevertheless, adjusted transaction volumes for 2025 are already estimated to reach nearly US (United States) \$10 trillion by the end of November – a historic high and an increase of 70 % compared to 2024.<sup>[8]</sup> During the same period, the global market capitalisation of stablecoins has risen to over US (United States) \$300 billion, representing growth of nearly 50 % since the beginning of the year.<sup>[9]</sup>

Continued rapid growth in global crypto markets and increasing ties with the traditional financial system could put financial stability at greater risk in Germany as well – especially if this coincides with continued global fragmentation in the regulation of crypto assets. In order to eliminate risks from cross-border regulatory arbitrage, the timely implementation of internationally agreed global standards for the regulation of crypto assets is key.

I'd now like to say a few words about monetary policy transmission. The widespread use of assets as a means of transaction other than the domestic currency could undermine the central bank's ability to effectively conduct monetary policy and maintain price stability.

Ikeda (2020) shows that the impact of a domestic monetary policy shock diminishes as the unit of account is increasingly substituted by foreign currency. This means that the impact of a change in interest rates declines as prices and wages are increasingly set in units of a foreign currency.<sup>[10]</sup> Conversely, the impact of foreign monetary policy on the domestic economy increases accordingly.

Benigno, Schilling and Uhlig (2022) explore the effects of using crypto asset as a global medium of exchange. They demonstrate that monetary policy independence declines. In other words, they find that the scope for setting interest rates that are distinct from foreign countries narrows if foreign forms of money or crypto assets are widely used as a means of payment.<sup>[11]</sup>

To sum up: The increased use of crypto assets and stablecoins is an example of how financial market structures, instruments and architecture are evolving. Even though the crypto market is still relatively small at present, it is growing rapidly. As a central bank, we are particularly focused on examining the implications for financial stability and monetary policy.

This brings me to my last question: What is our response as a central bank?

#### **4 The Bundesbank's approach to the future of finance**

In response to the evolving financial market architecture, instruments and structure and their implications for financial stability and monetary policy transmission, we are intensifying our research on the future of finance. This includes not only the impact of crypto assets, but also areas such as the growing role of non-bank financial intermediaries (NBFIs (non-bank financial intermediaries)) and the influence of artificial intelligence (AI (artificial intelligence)) on financial markets and the real economy. Through this research, we aim to support the calibration of monetary policy instruments.

To give you one example: Overall, the findings in the literature on how NBFIs (non-bank financial intermediaries) influence monetary policy transmission remain inconsistent. So far, there is no evidence that monetary policy has become less effective. <sup>[12]</sup> However, the relative importance of different transmission channels could shift, particularly from the banking channel to asset prices. More research is needed in this area. Therefore, we will continue to expand our research in this field. Possible questions are: What are the drivers of NBFI (non-bank financial intermediaries) growth – regulatory arbitrage, increasing savings in an aging society, or the low-interest-rate environment and the search for yield? How do US (United States) monetary policy and fluctuations in the dollar exchange rate affect inflows and outflows in funds? What impact does this have on portfolio allocation? And what role does the insurance sector play in absorbing liquidity risks and transmitting monetary policy shocks?

As central banks, we are also actively shaping the future of finance. In the Eurosystem, we are currently working on a central bank digital currency (CBDC (central bank digital currency)). From our point of view, CBDC (central bank digital currency) offers many strategic advantages and offers a solution to many of the challenges I mentioned before.

First, a retail CBDC (central bank digital currency) would make the euro and the euro area more resilient to emerging forms of money. Second, it would make European payments more efficient. Despite a number of initiatives over the years, Europe still does not have a European digital solution for retail payments that can be used throughout the entire euro area. A third strategic benefit addresses concerns regarding sovereignty and security: The trend towards digital payments is leading to an ever-growing reliance on non-European card schemes and payment solutions provided by non-European bigtechs. A digital euro offers a European alternative. Technically, it would run on European infrastructure and would make us less dependent on non-European providers.

The digital euro is intended to be a digital form of central bank money that is accepted all over the euro area and complements conventional central bank money – i.e. banknotes and coins – in a meaningful way. But before a digital euro can be introduced, the necessary legal foundations first need to be staked out by EU (European Union) legislators.

This often reminds me of a visit I once took with my family to the US (United States) Mint in Philadelphia. It provides a powerful illustration of how the Founding Fathers of the United States decided to stop using the British pound sterling and instead introduce their own currency, the dollar, as they viewed it as a key element of sovereignty.

Additional benefits, such as a higher degree of automation and 24/7 availability, could also be leveraged through the introduction of a wholesale CBDC (central bank digital currency) solution. It would also enable us to make complex capital market transactions more efficient. In other words, it would be cheaper, quicker, more transparent and require less coordination.

That's why we at the Bundesbank are also exploring wholesale CBDC (central bank digital currency) for interbank trading, settling large-value transactions, and boosting efficiency and security levels in the financial system. One key characteristic is smart contract-enabled payments, which will be an innovative element. So it is more than the account balance that commercial banks currently hold with the central bank.

At the Bundesbank, we have developed our own technical "trigger solution", which makes it possible to connect market DLT (distributed ledger technology) platforms with the Eurosystem's traditional payment system. This met with considerable interest among market participants during an exploratory phase last year. Our aim is to make tokenised central bank money available to the market as part of a future joint Eurosystem solution.

To achieve this, the Eurosystem is expanding its initiative to settle DLT (distributed ledger technology)-based transactions in central bank money. The initiative will follow a two-track approach. First, in the Eurosystem, we are developing an interoperability solution with TARGET (Trans-European Automated Real-time Gross Settlement Express Transfer System)

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Services. Second, we are exploring a long-term integrated solution, including the settlement of cross-border transactions.

We thus wish to seize upon the current momentum and ensure that Europe continues to be a pioneer in developing a tokenised financial market infrastructure. This represents the first step towards a more digital ecosystem that we will build in close cooperation with market participants in the years ahead.



To answer the third question: To meet the public's and banks' demand for digital payments using secure public money, we are working within the Eurosystem on the development of CBDC (central bank digital currency) – in a wholesale and in a retail variant. Additionally, we are expanding our research on the future of finance.

## 5 Conclusion

Ladies and gentlemen, that concludes my speech – thank you very much for your attention. The Bundesbank will continue to closely monitor developments in this space as they unfold, and we will play an active role in shaping the future of finance in compliance with our price stability mandate.

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